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ABSTRACT

An ecological theory of teaching should help teachers to view their classroom environment in ways that will lead to a more complete analysis of the interrelationships involved in teaching. Examination of these interrelating elements could conceivably lead to redefinition of "successful teaching" and "successful learning." This redefinition, in turn, could then lead to recombination of the elements in ways likely to improve teaching and learning. (Author/LH)

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SUMMARY

# HOW AN ECOLOGICAL APPROACH TO THE STUDY OF TEACHING MIGHT CONTRIBUTE TO THE IDENTIFICATION OF EFFECTIVE PRACTICE

By Bernard McKenna

An ecological theory of teaching should have as a primary purpose helping teachers view their classrooms, and all the conditions and activities that characterize them, in ways that will lead to a more complete analysis of all that is and that takes place in the totality of interrelationships.

But once this is accomplished, one must ask the question, "to what end?" Since the literature on ecological theory indicates that it "is an attempt to recognize and attend to the multiple elements. . .which are particularly important for successful enactment of teaching and learning..." it seems reasonable to expect that it would soon become necessary to define successful teaching and successful learning.

In that context a second major reason for studying teaching-learning in terms of the interrelationship of all its elements might well be to learn whether or not (and if "whether" then which) some particular elements or combinations of elements in particular interactions with other elements are more likely to improve teaching-learning than other elements or combinations of elements.

In this respect those who conduct ecological research in classrooms (ecologist-ethnographer is one term for these, since ethnographic processes are a major source of data gathering for such research), including teachers, might become evaluators in the sense of examining the elements and their interactions with classrooms in terms of how they contribute to achieving intended goals and objectives.

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# HOW AN ECOLOGICAL APPROACH TO THE STUDY OF TEACHING MIGHT CONTRIBUTE TO THE IDENTIFICATION OF EFFECTIVE PRACTICE

Bernard McKenna

In the preface to their paper, Toward An Ecological Theory of Teaching: A Starting Point, Dawson, Tikunoff and Ward[1] point out that "The proposed theory is an attempt to recognize and attend to the multiple elements that are beginning to crystallize in our own work as well as in the work of others, elements which are particularly important for successful enactment of teaching and learning within an environment called the classroom."

The use of the adjective successful as a modifier of both teaching and learning appears, at least, to imply that part of the process of generating an ecological theory of teaching involves assessment of or judgments about the quality of teaching and learning acts. And since quality determinations are almost always to some degree goal related, it would be surprising if a process concerned with "successful enactment of teaching and learning" did not result in some assumptions about what promotes learning. After all, a large responsibility of the school, some argue the only responsibility, is to promote learning on the part of students.

In a footnote to page one of the Dawson, Tikunoff and Ward manuscript, the implication that some assessment of goal achievement is likely to be (or should be) part of EcoTheory development is heralded in the statement that references to teaching and the teaching environment are meant to "incorporate both teaching and learning acts." The

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[1] Dawson, Mary B., Tikunoff, William J., and Ward, Beatrice A. Toward An Ecological Theory of Teaching: A Starting Point. San Francisco, CA: Far West Laboratory for Educational Research and Development. Undated.

inclusion of learning acts instructs us (at least this reader) that some thought must be given to what produces learning as compared to what does not. Otherwise, how shall we know a learning act when we encounter one?

Thus, I return to the original statement that prompted this paper:

> One major reason for studying teaching-learning in terms of the interrelationships of all its elements is to learn whether or not (and if "whether" then which) some particular elements or combinations of elements in particular interactions with other elements are more likely (for certain goals and objectives, under particular conditions and at given times) to improve teaching-learning than other elements or combinations of elements in other interactions.

Including this purpose as one for engaging in work an ecological theory of teaching should not diminish or otherwise adversely affect other important purposes. Certainly some other purposes will need to be pursued first, i.e., identifying elements, and developing understanding about the relations among elements and "the dynamics of interaction over time." But such ordering of activities should not neglect the full range of elements in the ecology of classrooms, including outcomes.

Besides, including the purpose of identifying effective practice promises to strengthen motivation for gaining greater understanding of the ecological nature of teaching and learning.

To illustrate how an ecological approach might look "different from a carefully constructed multi-variate analysis..." the following scenario and discussion is offered.

## SCENARIO

A teacher of beginning reading individualizes in a number of ways, in one way, or hardly at all: s/he individualizes within a

subgroup through oral performance by one child while others follow along; s/he assigns different materials to different children to be pursued independently; s/he tutors individual children for specific purposes; s/he responds to an individual child's request for assistance; or s/he orchestrates several of these at about the same time. These processes occur in a particular setting, a unique social and emotional climate, with a unique student population and with specific "props," i.e., curriculum objectives, materials, time frames and in the presence of a variety of disruptions.

As a result of whichever activities are pursued (or combinations of them), the teacher assesses individual learning progress, evaluates the effectiveness of a particular activity(ies) for achieving the objectives, and makes decisions (consciously or unconsciously) about the appropriateness of the activities for accomplishing the same or similar objectives at another time.

An ecological approach to the study of teaching takes all these into account. It gathers information of a variety of kinds and through several processes: observation of instructional activities and contexts; analysis of recorded interactions; description and collation of recorded curriculum goals and objectives; study of teacher and student characteristics; consideration of the teacher's evaluation of achievement of objectives; and others.

Those who have given thought and leadership to the concept of EcoTheory have recognized and called to attention the importance of training for those who conduct such studies. It should be expected that skilled, experienced ethnographers[1] (especially those with

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[1]Hereafter referred to as ecologist-ethnographer.

background as teachers) who possess advanced formal preparation in curriculum and the instructional process will produce reliable descriptions of instructional processes, contexts, and student and teacher population behaviors and characteristics. That is, it might be expected that different ecologist-ethnographers examining the same ecology will produce similar descriptions.

Carry this one step further. Such skilled ecologist-ethnographers are in a good position to analyze the interaction among process, context and the variety of other elements relevant to EcoTheory and to draw some conclusions, however tentative, about the effectiveness of specific processes within specific contexts for particular purposes.

Such postulating should not be on the basis of single or narrow examination of a single ecological setting, or by a single ecologist-ethnographer.

The process might go something like this. A skilled, experienced ecologist-ethnographer, following the examination of particular instructional processes in several ecologies and taking into account the interactive influences of various elements, concludes that a particular strategy or combinations of strategies within particular contexts appear(s) highly effective for accomplishing a stated purpose, e.g., reading comprehension.

At that point other ecologist-ethnographers similarly trained, skilled,and experienced examine the same and perhaps similar ecologies where the same or similar instructional objectives, e.g., reading comprehension, are being pursued, with the purpose of drawing some conclusions (however tentative) about the effectiveness of the process identified as promising by the original investigator.

Then comes the time for caucusing for consensus. If there is consensus, some tentative hypotheses might be formulated on the effectiveness of a particular process or processes for specific purposes the context of agreed-on ecological elements being clearly and completely described. Then the whole process might be replicated in other similar settings for further confirmation (or denial) of the hypotheses.

The Ecologist-Ethnographer as Evaluator

It has been said that the unexamined life is not worth living. In old cliches there are sometimes the seeds of lasting truth. Appropos to the subject at hand, one might paraphrase the statement to read "Unevaluated teaching and learning acts are not worthy of pursuit."

So when understanding of the elements and their interrelationships and influences has been achieved it would appear that professional ecologist-ethnographers would want to critically examine those elements and their interaction in terms of their intended goals and objectives. In fact, it is difficult to imagine that they would not--unless, that is, they choose to behave like some former-day (and latter-day) sociologists who have been prone to identify and describe the syndromes of institutions and their functioning without even citing the issues such identification and description raises, let alone suggesting possible effective approaches for their resolution.

Another consideration prompts the recommendation that ecologist-ethnographers should eventually assume evaluative roles. Outcomes however defined (the assumption here is that they will be defined in

the broadest terms to include learning processes, performances, behaviors, competencies, attitudes--inasmuch as the state of the art and science permits the identification of these qualities) have interactive and reciprocal influences on all the other elements. Thus, if an ecological theory of teaching is eventually to "heed the relationships among the complex set of components that constitute the /total/[1] environment of teaching,"[2] it must heed the cyclical nature of teaching-learning, i.e., the interactive relationship among learning outcomes (broadly conceived), teaching behaviors and other elements in the ecological unit--the classroom.

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[1] In brackets mine.

[2] Dawson, Tikunoff, Ward, op. cit., pg. 3.